

## 652.0203 Explanation of Tables and Databases

The majority of current Oregon soil survey data are contained in electronic databases that are best accessed via the internet. Limited printed copies of soils survey data are available for some areas that have been surveyed and for which data have not been included in the electronic database.

The recommended approach is to access soil survey data using the *Web Soil Survey* which can be accessed at:

<http://websoilsurvey.nrcs.usda.gov/app/>

Using the *Web Soil Survey*, a soils map of the design area can be obtained and printed along with pertinent soils data. An example soils map and accompanying map unit legend summary are shown in Figure OR2-10, and a copy of soil physical properties for the site is shown in Table OR2-15.

Oregon Soil Survey Reports, Maps, and Data are also accessible at the following site:

[http://www.or.nrcs.usda.gov/pnw\\_soil/or\\_data.htm](http://www.or.nrcs.usda.gov/pnw_soil/or_data.htm)

Detailed information that can be downloaded and accessed for each county in Oregon includes the following:

**Online Soil Maps** – View and print soil maps for a selected area with aerial photograph or topographic map background.

**Map Unit Symbol Legend** – table with map unit symbols and names in PDF format.

**Report Text** – published soil survey report text excluding tables and soil maps in PDF format.

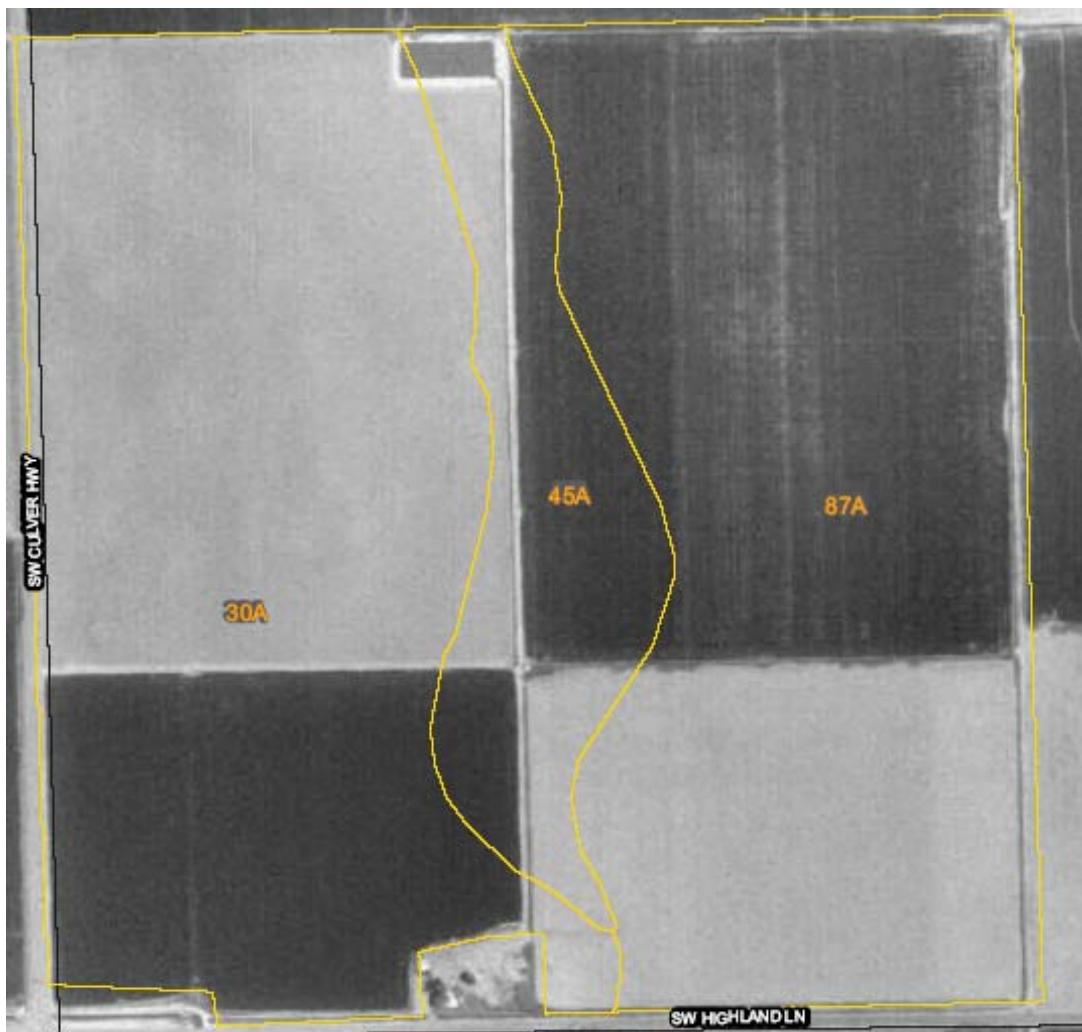
**Online Soil Data Reports** – create reports of soil properties and interpretations by selecting soil map units and report options. Links in this column will take you to the Soil Data Mart web site. Reports can be printed or saved as PDF or Rich Text format.

**Tabular Data** – compressed file of tables containing soil properties and interpretations. Links in this column will take you to the Soil Data Mart web site. The tabular data can be downloaded and imported into a Microsoft Access template file, which is also available at the Soil Data Mart web site.

**Spatial Data** - compressed file containing soil survey spatial data for geographic information system software. Links in this column will take you to the Soil Data Mart web site. Spatial data can be downloaded in a variety of formats and projections.

**Hydric Soil List** – table with soil mapunit symbols, component names, and hydric soil ratings in PDF format.

**Figure OR2-10 Example soils map and accompanying map unit legend summary from Web Soil Survey for a farm unit in central Oregon**



### Map Unit Legend Summary

Upper Deschutes River Area, Oregon, Parts of Deschutes, Jefferson, and Klamath Counties

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
30A	Cullius loam, 0 to 3 percent slopes	69.4	44.1
45A	Era sandy loam, cobbly substratum, 0 to 3 percent slopes	19.0	12.1
87A	Madras loam, 0 to 3 percent slopes	69.1	43.9

**Table OR2-15 Example soil physical properties summary from Web Soil Survey for a farm unit in central Oregon****Physical Soil Properties**

Upper Deschutes River Area, Oregon, Parts of Deschutes, Jefferson, and Klamath Counties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
<b>30A:</b>														
Cullis	0-6	--	--	12-20	1.35-1.50	4.00-14.00	0.16-0.18	0.0-2.9	1.0-2.0	.32	.32	1	5	56
	6-9	--	--	27-40	1.30-1.40	1.40-4.00	0.19-0.21	3.0-5.9	1.0-2.0	.37	.37			
	9-17	--	--	40-60	1.20-1.30	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.15	.15			
	17-18	--	--	--	--	--	--	--	--	--	--			
	18-28	--	--	--	--	--	--	--	--	--	--			
<b>45A:</b>														
Era, cobble substratum	0-10	--	--	5-10	1.20-1.40	14.00-42.00	0.11-0.13	0.0-2.9	1.0-2.0	.24	.24	4	3	86
	10-28	--	--	5-10	1.20-1.40	14.00-42.00	0.11-0.13	0.0-2.9	0.5-1.0	.24	.24			
	28-36	--	--	5-10	1.20-1.40	14.00-42.00	0.11-0.13	0.0-2.9	0.3-1.0	.24	.24			
	36-42	--	--	5-10	1.20-1.40	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	42-60	--	--	5-10	1.40-1.60	42.00-141.00	0.08-0.10	0.0-2.9	0.0-0.5	.17	.24			
<b>87A:</b>														
Madras	0-10	--	--	15-27	1.35-1.50	4.00-14.00	0.13-0.16	0.0-2.9	1.0-2.0	.32	.32	2	5	56
	10-16	--	--	25-35	1.20-1.30	1.40-4.00	0.14-0.18	3.0-5.9	0.5-1.0	.28	.37			
	16-23	--	--	25-35	1.20-1.30	1.40-4.00	0.14-0.18	3.0-5.9	0.5-1.0	.28	.37			
	23-27	--	--	--	--	--	--	--	--	--	--			
	27-37	--	--	--	--	--	--	--	--	--	--			

## OR652.0204 State supplement

### (a) Soil surveys

As described in Section 652.203, most soil survey information for Oregon can be accessed via the internet. Soil information and field interpretations are also available in Section II of the Field Office Technical Guide, the electronic version of which is available online.

### (b) Computational tools

The NRCS Soil Texture Calculator can be used to show the soil texture on the soil texture triangle if the percentages of sand, silt, and/or clay are known. The URL for the Calculator is:

<http://soils.usda.gov/technical/investigations/texture/>

Estimates of soil water characteristics based on soil texture can be obtained using the soil feature of the SPAW model. (The SPAW – Soil-Plant-Air-Water – model is CCE compatible for use on CCE computers, and a non-CCE version is also available.) Soil water characteristics for a given soil texture include

- Wilting Point (% vol),
  - Field Capacity (% vol),
  - Saturation (% vol),
  - Available Water (in/ft),
  - Saturated Hydraulic Conductivity (in/hr),
  - Bulk Density (lb/ft<sup>3</sup>),
- and for a given moisture content
- Matic Potential (bar), and
  - Hydraulic Conductivity (in/hr).

### (c) Intake characteristics for selected soils in Oregon

Soil water intake characteristics are described in Section 652.0202(c) with general ranges of values listed in Tables 2-6 and 2-7.

Intake characteristic data have been obtained for a large number of irrigated soils in Oregon from numerous on-site tests and observations. This information includes Basic Sprinkler Intake Rate and Intake Family for surface irrigation for specific soil series. These data are listed in Table OR2-16. The values listed are general for the soils listed and can vary significantly due to site-specific conditions.

NOTE: Many values are missing for the soils listed in Table OR2-16. If additional observed data are obtained, please supply this information to the NRCS Oregon State Conservation Engineer. Likewise, observed discrepancies in tabled data should also be reported.

### (d) On-site field observations

Soil survey data are key elements in irrigation system design and irrigation water management. However, as the name implies, it is survey information, and site-specific conditions may vary within area boundaries of the published information. This fact is especially true in areas where conditions may change rapidly within a short distance. When in doubt, a field visit is recommended to investigate and verify on-site conditions.

**Table OR2-16      Soil intake parameters for selected soils in Oregon**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
1B	ABEGG	GR-L	0.3	4.0
1C	ABEGG	GRV-SL	0.25	3.0
1D	ABEGG	GR-L	0.2	4.0
1E	ABEGG	GRV-SL	0.15	3.0
2A	ABIN	SICL	0.15	0.35
1A	ABIQUA	SICL	0.25	0.35
1B	ABIQUA	SICL	0.25	0.35
AbA	ABIQUA	SICL	0.25	0.35
AbB	ABIQUA	SICL	0.25	0.35
1B	ADKINS	FSL	0.75	1.5
1C	ADKINS	FSL	0.7	1.5
2B	ADKINS	FSL	1	1.5
2C	ADKINS	FSL	0.9	1.5
3A	ADKINS	FSL	1	1.5
3C	ADKINS	FSL	0.9	1.5
4B	ADKINS	FSL	0.75	1.5
6B	AGATE	L	0.2	0.9
151C	AGATE	L	0.2	0.9
1A	AGENCY	SL	0.25	2.0
2A	AGENCY	L	0.25	2.0
2B	AGENCY	L	0.25	2.0
2C	AGENCY	L	0.2	2.0
3B	AGENCY	L	0.25	2.0
3C	AGENCY	L	0.2	2.0
AgC	AGENCY	L	0.25	2.0
1	ALGOMA	SIL	0.6	1.5
1B	ALICEL	FSL	0.35	1.5
2B	ALICEL	L	0.35	0.9
3C	ALICEL	SIL	0.3	0.7
1	ALOHA	SIL	0.3	0.8
1A	ALOHA	SIL	0.3	0.8
1B	ALOHA	SIL	0.25	0.8
2A	ALOHA	SIL	0.3	0.8
Ah	ALOHA	SIL	0.3	0.8
2B	ALSPAUGH	CL	0.2	0.5
2C	ALSPAUGH	CL	0.2	0.5
2	AMITY	SIL	0.3	0.7
3	AMITY	SIL	0.3	0.7
Am	AMITY	SIL	0.3	0.7

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
1C	ANDERLY	SIL	0.25	0.65
6B	ANDERLY	SIL	0.25	0.65
6C	ANDERLY	SIL	0.25	0.65
7C	ANDERLY	SIL	0.25	0.65
4B	APPLEGATE	SIL	0.3	0.3
4C	APPLEGATE	SIL	0.3	0.3
AsC	ASTORIA	SIL	0.3	0.6
8B	ATHENA	SIL	0.2	0.7
8C	ATHENA	SIL	0.2	0.7
5	AWBRIG	SICL	0.3	0.5
6	AWBRIG	SICL	0.3	0.5
7	AWBRIG	SICL	0.3	0.5
66	AYRES	CBV-L	0.3	1.0
67	AYRES	CBV-L	0.3	1.0
75	AYRES	CBV-L	0.3	1.0
76	AYRES	CBV-L	0.3	1.0
147	AYRES	CBV-L	0.3	1.0
11A	BAKER	SIL	0.35	2.0
11B	BAKER	SIL	0.3	2.0
12A	BAKER	SIL	0.35	2.0
12B	BAKER	SIL	0.3	2.0
1B	BANDON	SL	0.5	0.4
1C	BANDON	SL	0.45	0.4
2C	BANDON	SL	0.45	0.4
7B	BANDON	SL	0.5	0.4
7C	BANDON	SL	0.4	0.4
38B	BANDON	SL	0.5	0.4
38D	BANDON	SL	0.4	0.4
4	BANNING	L	0.2	0.9
14A	BANNING	L	0.2	0.9
2A	BARKLEY	L	0.4	0.9
2B	BARKLEY	L	0.4	0.9
5B	BARRON	COSL	0.58	3.0
5C	BARRON	COSL	0.53	3.0
10B	BARRON	COSL	0.58	3.0
10C	BARRON	COSL	0.53	3.0

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
6A	BASHAW	SICL	0.25	
6C	BASHAW	SIC	0.15	
7	BASHAW	C	0.15	0.2
8	BASHAW	C	0.15	0.2
8	BASHAW	SIC	0.2	
9	BASHAW	C	0.15	0.2
15A	BASHAW	C	0.15	0.2
Ba	BASHAW	C	0.15	0.2
Ba	BASHAW	SICL	0.25	
Bc	BASHAW	C	0.1	0.2
16C	BATEMAN	SIL	0.3	0.8
3	BEDNER	CL	0.2	0.45
39	BEDNER	CL	0.2	0.45
8C	BELLPINE	SICL	0.3	
8D	BELLPINE	SICL	0.25	
9C	BELLPINE	SICL	0.3	
9D	BELLPINE	SICL	0.25	
11C	BELLPINE	SICL	0.3	
11D	BELLPINE	SICL	0.25	
BeC	BELLPINE	SICL	0.3	
BeD	BELLPINE	SICL	0.25	
13C	BLY	L	0.3	0.9
4A	BLY	L	0.3	0.9
4B	BLY	L	0.3	0.9
99B	BLY	L	0.3	0.9
8B	BORNSTEDT	SIL	0.3	
8C	BORNSTEDT	SIL	0.25	
8D	BORNSTEDT	SIL	0.2	
20	BOYCE	SIL	0.2	1.0
23A	BOYCE	SIL	0.2	1.0
17C	BRADER	L	0.2	0.9
44C	BRADER	L	0.2	0.9
51C	BRADER	L	0.2	0.9
102B	BRADER	L	0.2	0.9
102D	BRADER	L	0.15	0.9
29A	BRAND	SICL	0.2	0.6
11B	BROCKMAN	CL	0.15	0.45
11C	BROCKMAN	CL	0.1	0.45
12B	BROCKMAN	CB-CL	0.15	0.45
12D	BROCKMAN	CB-CL	0.1	0.45
23A	BUCKBERT	SL	0.35	1.5

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
3	BULLY	SIL	0.25	1.5
3A	BULLY	SIL	0.25	1.5
751A	CALABAR	SIL	0.15	
5	CALDER	SIL	0.3	0.7
6A	CALIMUS	FSL	0.5	1.5
6B	CALIMUS	FSL	0.5	1.5
6C	CALIMUS	FSL	0.45	1.5
7A	CALIMUS	L	0.35	2.0
7B	CALIMUS	L	0.35	2.0
7C	CALIMUS	L	0.3	2.0
8D	CALIMUS	L	0.3	2.0
51E	CALIMUS	L	0.25	2.0
11	CAMAS	GR-SL	0.5	3.0
13	CAMAS	GR-SL	0.5	3.0
14	CAMAS	GR-SL	0.5	3.0
15	CAMAS	GR-SL	0.5	3.0
18	CAMAS	GR-SL	0.5	3.0
21A	CAMAS	SL	0.45	2.0
22	CAMAS	GR-SL	0.5	3.0
22A	CAMAS	GR-SL	0.5	3.0
23	CAMAS	GR-SL	0.5	3.0
34A	CAMAS	GRV-SL	0.5	3.0
Ca	CAMAS	GR-SL	0.5	3.0
12B	CANTALA	SIL	0.15	
12C	CANTALA	SIL	0.15	
12D	CANTALA	SIL	0.15	
12E	CANTALA	SIL	0.1	
16B	CANTALA	SIL	0.15	
16C	CANTALA	SIL	0.15	
16D	CANTALA	SIL	0.1	
16E	CANTALA	SIL	0.1	
9A	CAPONA	L	0.4	0.9
9B	CAPONA	L	0.4	0.9
9C	CAPONA	L	0.35	0.9
74B	CAPONA	L	0.4	0.9
27B	CARNEY	C	0.15	0.1
27D	CARNEY	C	0.1	0.1
7	CATHERINE	SIL	0.3	3.0
21	CATHERINE	SIL	0.3	3.0
17A	CATHERINE	SIL	0.3	3.0
35A	CATHERINE	SIL	0.3	3.0
17A	VARIANT	SIL	0.3	3.0

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
9B	CAZADERO	SICL	0.3	
9C	CAZADERO	SICL	0.3	
15B	CAZADERO	SICL	0.3	
15C	CAZADERO	SICL	0.25	
4A	CENCOVE	FSL	0.65	4.0
4B	CENCOVE	FSL	0.65	4.0
4C	CENCOVE	FSL	0.6	4.0
4D	CENCOVE	FSL	0.55	4.0
16	CENTRAL POINT	SL	0.4	2.0
31A	CENTRAL POINT	SL	0.4	2.0
8C	CHEHALEM	SICL	0.3	0.55
20C	CHEHALEM	SIL	0.5	0.7
CeC	CHEHALEM	SIL	0.5	0.7
CeC	CHEHALEM	SICL	0.3	0.55
9	CHEHALIS	SICL	0.35	0.35
10	CHEHALIS	SIL	0.5	
14	CHEHALIS	SICL	0.35	0.35
21	CHEHALIS	SICL	0.35	0.35
26	CHEHALIS	SICL	0.35	0.35
27	CHEHALIS	SICL	0.35	0.35
Ch	CHEHALIS	SICL	0.35	0.35
Ck	CHEHALIS	SICL	0.35	0.35
13B	CHENOWETH	L	0.25	
13C	CHENOWETH	L	0.25	
13D	CHENOWETH	L	0.2	
13E	CHENOWETH	L	0.15	
14B	CHERRYHILL	SIL	0.2	
14C	CHERRYHILL	SIL	0.2	
14D	CHERRYHILL	SIL	0.15	
14E	CHERRYHILL	SIL	0.1	
16D	CHERRYHILL	SIL	0.15	
45	CHESNIMNUS	SIL	0.3	
46	CHESNIMNUS	GR-L	0.5	
5A	CHILCOTT	SIL		1.0
5B	CHILCOTT	SIL		1.0
5C	CHILCOTT	SIL		1.0
10	CHILOQUIN	L	0.4	0.9
33	CHOCK	L	0.3	0.9

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
17	CLACKAMAS	SIL	0.5	
18	CLACKAMAS	GR-L	3	
23	CLACKAMAS	GR-SIL	0.6	
Ck	CLACKAMAS	GR-L	3	
17B	CLAWSON	SL	0.4	2.0
32B	CLAWSON	SL	0.4	2.0
13	CLOQUATO	SIL	0.35	0.7
17	CLOQUATO	SIL	0.35	0.7
19	CLOQUATO	SIL	3	0.7
25	CLOQUATO	SIL	0.35	0.7
29	CLOQUATO	SIL	0.35	0.7
30	CLOQUATO	SIL	0.35	0.7
Cm	CLOQUATO	SIL	0.35	0.7
27A	CLOVKAMP	LS	0.8	2.0
28A	CLOVKAMP	LS	0.8	2.0
18	COBURG	SICL	0.35	0.6
19	COBURG	SICL	0.35	0.6
20	COBURG	SICL	0.35	0.6
26	COBURG	SICL	0.35	0.6
31	COBURG	SICL	0.35	0.6
32	COBURG	SICL	0.35	0.6
42B	COBURG	SICL	0.35	0.6
43A	COBURG	SICL	0.35	0.6
Cn	COBURG	SICL	0.35	0.6
33A	COKER	C	0.15	0.1
33C	COKER	C	0.1	0.1
34B	COLEMAN	L	0.2	0.9
20	CONCORD	SIL	0.25	0.7
21	CONCORD	SIL	0.25	0.7
27	CONCORD	SIL	0.25	0.7
Co	CONCORD	SIL	0.25	0.7
Co	CONCORD	SIL	0.25	0.7

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
2D	CONDON	SIL	0.15	
3D	CONDON	SIL	0.15	
5B	CONDON	SIL	0.15	
5C	CONDON	SIL	0.15	
17B	CONDON	SIL	0.15	
17C	CONDON	SIL	0.15	
18B	CONDON	SIL	0.15	
18C	CONDON	SIL	0.15	
18D	CONDON	SIL	0.1	
21D	CONDON	SIL	0.1	
370B	CONDON	SIL	0.15	
460D	CONDON	SIL	0.1	
461D	CONDON	SIL	0.1	
BcC	CONDON	SIL	0.15	
CnC	CONDON	SIL	0.15	
CoC	CONDON	SIL	0.15	
12	COQUILLE	SIL	0.4	0.5
12A	COQUILLE	SIL	0.4	0.5
13A	COQUILLE	SIL	0.4	0.5
46A	COQUILLE	SIL	0.4	0.5
Co	COQUILLE	SIL	0.4	0.5
13A	COQUILLE VARIANT	SIL	0.4	0.5
10A	COUGHANOUR	SIL	0.3	
10B	COUGHANOUR	SIL	0.3	
10C	COUGHANOUR	SIL	0.25	
CrB	COURT	SL	0.35	
29	COURTNEY	GR-SICL	0.25	0.35
34	COURTNEY	GR-SICL	0.25	0.35
Cu	COURTNEY	GR-SICL	0.25	0.35
6B	COURTROCK	L	0.35	
40B	COURTROCK	L	0.35	
42D	COURTROCK	L	0.25	
430B	COURTROCK	L	0.35	
431D	COURTROCK	L	0.25	
14	COVE	C	0.1	0.1
22	COVE	SICL	0.15	0.3
35A	COVE	C	0.1	0.1
Cv	COVE	C	0.1	0.1
13A	CRUME	L	0.4	0.9
13B	CRUME	L	0.4	0.9
14B	CRUME VARIANT	SL	0.5	1.5
182C	CUPPER	SIL	0.35	

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
760A	DAMON	SICL	0.35	
765B	DAMON	SICL	0.35	
43B	DAROW	SICL	0.15	0.35
43D	DAROW	SICL	0.1	0.35
43E	DAROW	SICL	0.1	0.35
15	DAYTON	SIL	0.25	0.7
16	DAYTON	SIL	0.25	0.7
25	DAYTON	SIL	0.25	0.7
29	DAYTON	SIL	0.25	0.7
33	DAYTON	SIL	0.25	0.7
38	DAYTON	SIL	0.25	0.7
Da	DAYTON	SIL	0.25	0.7
Dc	DAYTON	SIL	0.2	0.7
9	DAYVILLE	SIL	0.3	1.0
9P	DAYVILLE	SIL	0.3	1.0
50A	DAYVILLE	SIL	0.3	1.0
270A	DAYVILLE	SIL	0.3	1.0
17C	DEBENGER	L	0.4	0.9
27C	DEBENGER	L	0.4	0.9
44C	DEBENGER	L	0.4	0.9
51C	DEBENGER	L	0.4	0.9
31A	DESCHUTES	SL	0.3	2.0
31B	DESCHUTES	SL	0.3	2.0
32A	DESCHUTES	SL	0.3	2.0
32Am	DESCHUTES	ASHY-SL	0.3	2.0
33B	DESCHUTES	SL	0.3	2.0
34C	DESCHUTES	SL	0.25	2.0
35B	DESCHUTES	SL	0.3	2.0
35Bm	DESCHUTES	ASHY-SL	0.3	2.0
105C	DESCHUTES	SL	0.3	2.0
140Bm	DESCHUTES	ASHY-SL	0.3	2.0
142Bm	DESCHUTES	ASHY-SL	0.3	2.0
36A	DESKAMP	LS	0.8	4.0
36B	DESKAMP	LS	0.8	4.0
38B	DESKAMP	LS	0.8	4.0
37B	DESKAMP	SL	0.5	2.0
59Cm	DESKAMP	ASHY-LS	0.8	4.0
17A	DETER	CL	0.3	0.5
17B	DETER	CL	0.3	0.5
64B	DETER	L	0.3	0.5
64C	DETER	L	0.3	0.5
65B	DETER	L	0.3	0.5
65C	DETER	L	0.3	0.5
34	DILMAN	SICL	0.3	0.35

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
18A	DODES	L	0.3	0.9
18B	DODES	L	0.3	0.9
73B	DREWS	L	0.35	3.0
73C	DREWS	L	0.35	3.0
73E	DREWS	L	0.3	3.0
74C	DREWS	CB-L	0.35	3.0
75B	DREWS	L	0.35	3.0
76B	DREWSGAP	L	0.35	3.0
76C	DREWSGAP	L	0.35	3.0
22B	DUFUR	SIL	0.3	
22C	DUFUR	SIL	0.3	
22D	DUFUR	SIL	0.25	
15B	EILERTSEN	SIL	0.45	0.2
17A	EILERTSEN	SIL	0.45	0.2
17B	EILERTSEN	SIL	0.45	0.2
20	EILERTSEN	SIL	0.45	0.2
46	EILERTSEN	SIL	0.45	0.2
59	EILERTSEN	SIL	0.45	0.2
106B	EILERTSEN	SIL	0.45	0.2
24B	ELLISFORDE	SIL	0.25	
24C	ELLISFORDE	SIL	0.25	
25C	ELLISFORDE	SIL	0.25	
25C	ELLISFORDE	VFSL	0.5	
11	ENDERSBY	FSL	0.75	
24	ENDERSBY	L	0.35	
11A	ENDERSBY	FSL	0.75	
12A	ENDERSBY	FSL	0.75	
44B	ERA	SL	0.35	
45A	ERA	SL	0.35	
ErB	ERA	SL	0.35	
23A	EVANS	L	0.4	4.0
34	EVANS	L	0.4	4.0
55A	EVANS	L	0.4	4.0
78A	EVANS	L	0.4	4.0
8A	FELTHAM	LFS	0.85	4.0
8B	FELTHAM	LFS	0.85	4.0
8C	FELTHAM	LFS	0.8	4.0
9B	FELTHAM	SL	0.75	2.0
9C	FELTHAM	SL	0.7	2.0
9D	FELTHAM	SL	0.65	2.0
10	FELTHAM VARIANT	LFS	0.85	4.0
10A	FELTHAM VARIANT	LFS	0.85	4.0

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
38A	FOEHLIN	GR-L	0.3	1.0
38C	FOEHLIN	GR-L	0.25	1.0
61A	FOEHLIN	GR-L	0.3	1.0
81A	FOEHLIN	GR-L	0.3	1.0
81C	FOEHLIN	GR-L	0.25	1.0
19A	FORDNEY	LFS	1	4.0
19C	FORDNEY	LFS	0.95	4.0
20A	FORDNEY	LFS	1	4.0
11A	FROHMAN	SIL	0.25	1.5
11B	FROHMAN	SIL	0.25	1.5
11C	FROHMAN	SIL	0.2	1.5
11D	FROHMAN	SIL	0.2	1.5
11E	FROHMAN	SIL	0.15	1.5
11F	FROHMAN	GR-SIL	0.15	1.5
12A	GARBUTT	SIL	0.25	0.3
12B	GARBUTT	SIL	0.25	0.3
12C	GARBUTT	SIL	0.2	0.3
12D	GARBUTT	SIL	0.2	0.3
24	GARDINER	SL	1.3	3.0
55B	GOODRICH	GR-L	0.3	2.0
38B	GOSNEY	ST-LS	0.3	2.0
59Cm	GOSNEY	ST-ASHY-LS	0.3	2.0
13A	GREENLEAF	SIL	0.2	0.3
13B	GREENLEAF	SIL	0.2	0.3
76A	GREGORY	SICL	0.15	0.35
16A	HACK	L	0.3	
16B	HACK	L	0.3	
16C	HACK	L	0.25	
17C	HACK	GR-L	0.25	
70A	HACK	L	0.3	
71B	HACK	L	0.3	
74C	HACK	L	0.25	
76C	HACK	GR-L	0.25	
230A	HACK	L	0.3	
230B	HACK	L	0.3	
63A	HALFWAY	C	0.3	3.0

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
14	HARANA	SIL	0.2	0.5
14A	HARANA	SIL	0.2	0.5
15	HARANA	SICL	0.2	0.5
15A	HARANA	SICL	0.2	0.5
15B	HARANA	SICL	0.2	0.5
16	HARANA	SICL	0.2	0.5
16A	HARANA	SICL	0.2	0.5
22A	HARRIMAN	LFS	0.5	2.0
23A	HARRIMAN	L	0.3	1.5
23B	HARRIMAN	L	0.3	1.5
23C	HARRIMAN	L	0.25	1.5
109B	HARRIMAN	L	0.3	1.5
109C	HARRIMAN	L	0.25	1.5
29C	HAZELAIR	SIL	0.3	0.7
29D	HAZELAIR	SIL	0.25	0.7
35C	HAZELAIR	SICL	0.25	0.35
43B	HAZELAIR	SICL	0.25	0.35
43C	HAZELAIR	SICL	0.25	0.35
43D	HAZELAIR	SICL	0.2	0.35
52B	HAZELAIR	SICL	0.25	0.35
52D	HAZELAIR	SICL	0.2	0.35
127C	HAZELAIR	SICL	0.25	0.35
HaB	HAZELAIR	SIL	0.2	0.7
HaC	HAZELAIR	SIL	0.25	0.7
HaD	HAZELAIR	SIL	0.15	0.7
HcB	HAZELAIR	SICL	0.25	0.35
HcD	HAZELAIR	SICL	0.2	0.35
HeC	HAZELAIR	SIL	0.25	0.7
HeD	HAZELAIR	SIL	0.2	0.7
25	HENLEY	LFS	1	2.0
26	HENLEY	L	0.4	2.0
27	HENLEY	SL	0.8	1.5
28	HENLEY	L	0.4	2.0
40	HENLEY	L	0.4	2.0
29	HENLEY VARIANT	L	0.4	2.0
1A	HERMISTON	SIL	0.25	1.0
11	HERMISTON	SIL	0.25	1.0
12A	HERMISTON	SIL	0.25	1.0
13A	HERMISTON	SIL	0.25	1.0
26	HERMISTON	SIL	0.25	1.0
39A	HERMISTON	SIL	0.25	1.0
33	HOLCOMB	SIL	0.3	0.7
46	HOLCOMB	SIL	0.3	0.7
56	HOLCOMB	SICL	0.2	0.35
Ho	HOLCOMB	SIL	0.3	0.7

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
12A	HOOD	L	0.6	
12B	HOOD	L	0.6	
12C	HOOD	L	0.55	
12D	HOOD	L	0.5	
23	HOOPAL	FSL	0.5	2.0
75A	HOOPAL	SIL	0.3	0.7
24	HOOPAL VARIANT	SIL	0.3	0.7
31	HOSLEY	L	0.1	0.1
25	HOT LAKE	SIL	0.25	0.7
29	HOUSTAKE	ASHY-SL	0.3	2.0
33B	HOUSTAKE	SL	0.3	2.0
65A	HOUSTAKE	SL	0.3	2.0
66A	HOUSTAKE	SL	0.3	2.0
67A	HOUSTAKE	SL	0.3	2.0
85A	HOXIE	SIL	0.2	0.7
86C	HUKILL	GR-L	0.2	1.0
26B	HUTCHINSON	SIL	0.3	
26C	HUTCHINSON	SIL	0.25	
21B	IRRIGON	FSL	0.25	
21C	IRRIGON	FSL	0.25	
46	JEROME	SL	0.4	0.3
31	JETT	SIL	0.25	1.0
45A	JETT	SIL	0.25	1.0
84D	JETT	SIL	0.2	1.0

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
23B	JORY	SICL	0.3	0.35
23C	JORY	SICL	0.25	0.35
23D	JORY	SICL	0.2	0.35
23E	JORY	SICL	0.15	0.35
35C	JORY	SIL	0.4	0.7
35D	JORY	SIL	0.35	0.7
35E	JORY	SIL	0.3	0.7
36C	JORY	SICL	0.3	0.35
36D	JORY	SICL	0.25	0.35
36E	JORY	SICL	0.2	0.35
37D	JORY	SICL	0.25	0.35
45B	JORY	SICL	0.3	0.35
45C	JORY	SICL	0.25	0.35
45D	JORY	SICL	0.2	0.35
46B	JORY	ST-SIL	0.4	0.7
46C	JORY	ST-SIL	0.35	0.7
46D	JORY	ST-SIL	0.3	0.7
51C	JORY	SICL	0.3	0.35
51D	JORY	SICL	0.25	0.35
51E	JORY	SICL	0.2	0.35
63C	JORY	SICL	0.3	0.35
63D	JORY	SICL	0.25	0.35
63E	JORY	SICL	0.2	0.35
113C	JORY	SICL	0.3	0.35
113D	JORY	SICL	0.25	0.35
113E	JORY	SICL	0.2	0.35
249E	JORY	SICL	0.2	0.35
JoB	JORY	SICL	0.3	0.35
JoC	JORY	SICL	0.25	0.35
JoD	JORY	SICL	0.2	0.35
JoE	JORY	SICL	0.15	0.35
JrB	JORY	CL	0.2	0.45
JrC	JORY	CL	0.15	0.45
JrD	JORY	CL	0.15	0.45
JRE	JORY	SICL	0.15	0.35
JrE	JORY	CL	0.1	0.45
40C	KAHLER	SIL	0.35	0.7
510D	KAHLER	SIL	0.35	0.7
570C	KAHLER	SIL	0.35	0.7
36C	KEATING	SIL	0.3	0.5
73C	KEATING	SIL	0.3	0.5
131C	KEATING	SIL	0.3	0.5
52	KERBY	L	0.4	0.9
97A	KERBY	L	0.4	0.9
98A	KERBY	L	0.4	0.9

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
10A	KIMBERLY	SL	0.3	2.0
13	KIMBERLY	FSL	0.6	1.5
18	KIMBERLY	FSL	0.6	1.5
18A	KIMBERLY	FSL	0.6	1.5
20A	KIMBERLY	SL	0.3	2.0
22	KIMBERLY	FSL	0.6	1.5
42A	KIMBERLY	FSL	0.6	1.5
43A	KIMBERLY	SIL	0.3	2.0
170A	KIMBERLY	SL	0.3	2.0
32	KIRK	L	0.3	0.9
33	KIRK	L	0.3	0.9
34	KLAMATH	SIC	0.3	0.35
99A	KLAMATH	SIL	0.2	0.7
35	KLAMATH VARIANT	CL	0.3	0.45
26B	KOEHLER	LFS	0.8	2.0
26C	KOEHLER	LFS	0.8	2.0
47B	KOEHLER	LFS	0.8	2.0
100A	KUBLI	L	0.2	0.9
100B	KUBLI	L	0.15	0.9
36	LA GRANDE	SIL	0.25	1.0
37	LA GRANDE	SICL	0.2	0.35
63	LA GRANDE	SIL	0.25	1.0
80A	LA GRANDE	SIL	0.25	1.0
91A	LA GRANDE	SIL	0.25	1.0
90B	LADD	L	0.25	1.5
71A	LAFOLETTE	SL	0.3	1.5
71B	LAFOLETTE	SL	0.3	1.5
36	LAKEVIEW	SICL	0.25	1.5
124A	LAKEVIEW	L	0.25	1.0
125A	LAKEVIEW	SICL	0.25	1.5
126A	LAKEVIEW	SICL	0.25	1.5
127A	LAKEVIEW	SICL	0.25	1.5
128A	LAKEVIEW	SICL	0.25	1.5
27	LAKI	FSL	0.75	1.5
28	LAKI	L	0.3	2.0
37	LAKI	FSL	0.75	1.5
38	LAKI	L	0.3	2.0
39	LAKI	L	0.3	2.0
40	LAKI	L	0.3	2.0
41C	LAKI VARIANT	L	0.3	2.0
64	LAMONTA	GR-L	0.35	0.9
LaC	LAMONTA	CB-L	0.35	0.9

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
101E	LANGELLAIN	L	0.15	0.9
102B	LANGELLAIN	L	0.25	0.9
102D	LANGELLAIN	L	0.2	0.9
103E	LANGELLAIN	L	0.15	0.9
34	LANGLOIS	SICL	0.5	0.4
35	LANGLOIS	PT-SICL	0.5	0.4
164A	LANGLOIS	SICL	0.5	0.4
46	LATHER	MUCK	0.6	1.5
28B	LAURELWOOD	SIL	0.3	0.7
28C	LAURELWOOD	SIL	0.25	0.7
28D	LAURELWOOD	SIL	0.2	0.7
28E	LAURELWOOD	SIL	0.15	0.7
29E	LAURELWOOD	SIL	0.15	0.7
54B	LAURELWOOD	SIL	0.3	0.7
54C	LAURELWOOD	SIL	0.25	0.7
54D	LAURELWOOD	SIL	0.2	0.7
LuC	LAURELWOOD	SIL	0.25	0.7
LuD	LAURELWOOD	SIL	0.2	0.7
LUE	LAURELWOOD	SIL	0.15	0.7
LuE	LAURELWOOD	SIL	0.15	0.7
380B	LEGLER	SIL	0.3	0.7
47A	LOBERT	SL	1	1.5
47B	LOBERT	SL	1	1.5
48A	LOBERT	L	0.5	0.9
48B	LOBERT	L	0.5	0.9
48C	LOBERT	L	0.45	0.9
48D	LOBERT	L	0.4	0.9
106C	LOBERT	SL	0.9	2.0
138C	LOBERT	L	0.45	0.9
49C	LORELLA	L	0.3	0.9
3B	MADRAS	L	0.25	0.45
3C	MADRAS	L	0.2	0.45
77	MADRAS	L	0.25	0.5
78	MADRAS	L	0.25	0.5
86A	MADRAS	SL	0.3	0.6
86B	MADRAS	SL	0.3	0.6
87A	MADRAS	L	0.25	0.45
87B	MADRAS	L	0.25	0.45
87C	MADRAS	L	0.2	0.45
610B	MADRAS	CB-L	0.25	0.45
MaC	MADRAS	L	0.2	0.45

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
45	MALABON	SICL	0.3	0.35
46	MALABON	SICL	0.3	0.35
55	MALABON	SICL	0.3	0.35
63	MALABON	SICL	0.3	0.35
75	MALABON	SICL	0.3	0.35
76	MALABON	SICL	0.3	0.35
144A	MALABON	SICL	0.3	0.35
145A	MALABON	SICL	0.3	0.35
Ma	MALABON	SICL	0.3	0.35
64	MALABON VARIANT	L	0.5	0.9
23A	MALHEUR	SIL	0.25	0.49
23B	MALHEUR	SIL	0.25	0.49
23C	MALHEUR	SIL	0.2	0.49
53	MALIN	CL	0.15	0.4
152A	MALIN	SICL	0.3	0.35
54	MALIN VARIANT	SIL	0.3	0.7
53B	MANITA	L	0.2	0.9
53C	MANITA	L	0.15	0.9
53D	MANITA	L	0.1	0.9
108B	MANITA	L	0.2	0.9
108D	MANITA	L	0.15	0.9
790C	MARSDEN	SIL	0.25	0.7
4C	MAUPIN	L	0.25	1.0
8	MAUPIN	SIL	0.3	1.0
32A	MAUPIN	L	0.3	1.0
32B	MAUPIN	L	0.3	1.0
80	MAUPIN	SIL	0.3	1.0
33	MAUPIN VARIANT	L	0.3	1.0
48A	MCALPIN	SICL	0.15	0.35
48B	MCALPIN	SICL	0.15	0.35
66B	MCALPIN	SICL	0.15	0.35
78	MCALPIN	SICL	0.15	0.35
MaA	MCALPIN	SICL	0.15	0.35
MaB	MCALPIN	SICL	0.15	0.35
Mn	MCALPIN	SICL	0.15	0.35
19A	MCLoughlin	SIL	0.25	0.8
19B	MCLoughlin	SIL	0.25	0.8
19C	MCLoughlin	SIL	0.2	0.8
360B	MCLoughlin	SICL	0.22	0.8
364D	MCLoughlin	SICL	0.2	0.8
120B	MEDCO	CL	0.15	0.4
120C	MEDCO	CL	0.1	0.4

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
127A	MEDFORD	SICL	0.3	0.35
128B	MEDFORD	CL	0.15	0.4
15	METOLIUS	ASHY-SL	0.35	2.0
MtB	METOLIUS	SL	0.35	2.0
28	MOAG	SICL	0.35	0.35
58A	MODOC	FSL	0.4	2.0
58B	MODOC	FSL	0.4	2.0
58C	MODOC	FSL	0.35	2.0
3D	MORROW	SIL	0.15	0.7
18B	MORROW	SIL	0.15	0.7
18C	MORROW	SIL	0.15	0.7
31B	MORROW	SIL	0.15	0.7
31C	MORROW	SIL	0.15	0.7
51B	MORROW	SIL	0.15	0.7
52C	MORROW	SIL	0.15	0.7
56B	MORROW	SIL	0.15	0.7
56C	MORROW	SIL	0.15	0.7
56D	MORROW	SIL	0.15	0.7
40	NEHALEM	SIL	0.45	0.2
40A	NEHALEM	SIL	0.45	0.2
51A	NEHALEM	SIL	0.45	0.2
88	NEHALEM	SIL	0.45	0.2
183A	NEHALEM	SIL	0.45	0.2
Ne	NEHALEM	SIL	0.45	0.2
NeB	NEHALEM	SIL	0.45	0.2
41	NESTUCCA	SIL	0.5	0.4
42	NESTUCCA	SIL	0.5	0.4
46A	NESTUCCA	SIL	0.5	0.4
52A	NESTUCCA	SIL	0.5	0.4
93	NESTUCCA	SIL	0.5	0.4
162A	NESTUCCA	SIL	0.5	0.4
185A	NESTUCCA	SIL	0.5	0.4
Ns	NESTUCCA	SIL	0.5	0.4
NsA	NESTUCCA	SIL	0.5	0.4

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
15	NEWBERG	FSL	0.55	4.0
23A	NEWBERG	FSL	0.55	4.0
34A	NEWBERG	FSL	0.55	4.0
53	NEWBERG	FSL	0.55	4.0
54	NEWBERG	L	0.55	4.0
57	NEWBERG	FSL	0.55	4.0
67	NEWBERG	FSL	0.55	4.0
68	NEWBERG	L	0.55	4.0
73	NEWBERG	FSL	0.55	4.0
95	NEWBERG	FSL	0.55	4.0
96	NEWBERG	L	0.55	4.0
97	NEWBERG	FSL	0.55	4.0
133A	NEWBERG	FSL	0.55	4.0
164A	NEWBERG	FSL	0.55	4.0
165A	NEWBERG	LS	0.55	4.0
Ng	NEWBERG	FSL	0.55	4.0
Nm	NEWBERG	L	0.55	4.0
Nu	NEWBERG	FSL	0.55	4.0
Nw	NEWBERG	SIL	0.55	4.0
43C	NORTH POWDER	L	0.35	1.0
114C	NORTH POWDER	L	0.35	1.0
21A	NYSSA	SIL	0.25	1.0
21B	NYSSA	SIL	0.25	1.0
21C	NYSSA	SIL	0.2	1.0
21D	NYSSA	SIL	0.2	1.0
21E	NYSSA	SIL	0.15	1.0
22A	NYSSA	SIL	0.25	1.0
22B	NYSSA	SIL	0.25	1.0
22C	NYSSA	SIL	0.2	1.0
22D	NYSSA	SIL	0.2	1.0
22E	NYSSA	SIL	0.15	1.0
23A	NYSSA	SIL	0.25	1.0
23B	NYSSA	SIL	0.25	1.0
23C	NYSSA	SIL	0.2	1.0
16B	OAK GROVE	L	0.7	0.9
16C	OAK GROVE	L	0.65	0.9
16D	OAK GROVE	L	0.6	0.9
16E	OAK GROVE	L	0.55	0.9
169C	OAKLAND	SIL	0.3	0.7
170C	OAKLAND	SIL	0.3	0.7
170D	OAKLAND	SIL	0.3	0.7
236C	OAKLAND	SIL	0.3	0.7
123	OCHOCO	ASHY-SL	0.35	2.0
133	OCHOCO	ASHY-SL	0.35	2.0
34	ONTKO	SICL	0.3	0.35

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
35	ONYX	SIL	0.3	2.0
63A	ONYX	SIL	0.3	2.0
24	OTOOLE	SIL	0.3	4.0
24A	OTOOLE	SIL	0.3	4.0
25A	OWYHEE	SIL	0.25	1.5
25B	OWYHEE	SIL	0.25	1.5
25C	OWYHEE	SIL	0.2	1.5
25D	OWYHEE	SIL	0.2	1.5
25E	OWYHEE	SIL	0.15	1.5
30B	OXBOW	STV-SICL	0.15	0.35
90B	OXBOW	STV-SICL	0.15	0.35
121C	OZAMIS	CL, SIC	0.25	1.5
139A	PADIGAN	C	0.1	0.1
17B	PARKDALE	L	0.55	0.9
17C	PARKDALE	L	0.5	0.9
17D	PARKDALE	L	0.45	0.9
17E	PARKDALE	L	0.4	0.9
35	PEDIGO	SIL	0.15	2.0
36	PEDIGO	SIL	0.15	2.0
22A	PEDIGO	SIL	0.15	2.0
65A	PEDIGO	LFS	0.75	2.0
66A	PEDIGO	SIL	0.15	2.0
141A	PHOENIX	C	0.1	0.1
67B	PILOT ROCK	SIL	0.25	0.7
67C	PILOT ROCK	SIL	0.25	0.7
61	PIT	SIC	0.2	4.0
202A	PIT	SICL	0.2	4.0
203A	PIT	SIC	0.2	4.0
204A	PIT	SIC	0.2	4.0
98A	PLAINVIEW	SL	0.35	2.0
98B	PLAINVIEW	SL	0.35	2.0
62	POE	LFS	1	1.5
63	POE	FSL	0.6	1.5
64	POE VARIANT	LFS	1.2	2.0

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
61B	POLLARD	L	0.2	0.9
61C	POLLARD	L	0.15	0.9
61D	POLLARD	L	0.15	0.9
61E	POLLARD	L	0.1	0.9
63F	POLLARD	GR-L	0.1	0.9
73E	POLLARD	L	0.1	0.9
90E	POLLARD	L	0.1	0.9
91E	POLLARD	L	0.1	0.9
149B	POLLARD	L	0.2	0.9
149D	POLLARD	L	0.15	0.9
192E	POLLARD	GR-L	0.1	0.9
14	POWDER	SIL	0.35	1.0
26	POWDER	SIL	0.35	1.0
27	POWDER	SIL	0.35	1.0
34	POWDER	SIL	0.35	1.0
72A	POWDER	SIL	0.35	1.0
124	POWDER	L	0.5	0.9
123	PRINEVILLE	ASHY-SL	0.35	2.0
133	PRINEVILLE	ASHY-SL	0.35	2.0
151C	PROVIG	GRV-L	0.3	1.5
37A	QUATAMA	L	0.3	0.9
37A	QUATAMA	L	0.3	0.9
37B	QUATAMA	L	0.3	0.9
37C	QUATAMA	L	0.3	0.9
37D	QUATAMA	L	0.2	0.9
38A	QUATAMA	L	0.3	0.9
40A	QUATAMA	SIL	0.3	0.7
40B	QUATAMA	SIL	0.3	0.7
40C	QUATAMA	SIL	0.25	0.7
54B	QUATAMA	L	0.3	0.9
54C	QUATAMA	L	0.25	0.9
71A	QUATAMA	L	0.3	0.9
71B	QUATAMA	L	0.3	0.9
71C	QUATAMA	L	0.25	0.9

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
28C	QUINCY	FS	0.75	4.0
39C	QUINCY	FS	0.8	4.0
28A	QUINCY	LFS	0.8	4.0
28B	QUINCY	LFS	0.8	4.0
29D	QUINCY	LFS	0.75	4.0
40C	QUINCY	LFS	0.8	4.0
74B	QUINCY	FS	0.8	4.0
75B	QUINCY	LFS	0.8	4.0
75E	QUINCY	LFS	0.7	4.0
76B	QUINCY	LFS	0.8	4.0
77C	QUINCY	LFS	0.8	4.0
78B	QUINCY	FS	0.8	4.0
120C	QUINCY	FS	0.8	4.0
36	QUINCY VARIANT	LFS	0.8	4.0
40	RAFTON	SIL	0.35	0.7
41	RAFTON	SIL	0.35	0.7
42	RAFTON	SIL	0.35	0.7
47A	RAFTON	SIL	0.35	0.7
239	REAVIS	SIL	0.25	0.7
143	REDMOND	CB-ASHY-SL	0.3	2.0
144	REDMOND	ASHY-SL	0.3	2.0
104A	REDMOND	SL	0.3	2.0
104Am	REDMOND	ASHY-SL	0.3	2.0
240	REDMOUNT	SIL	0.25	0.7
241	REDMOUNT	SIL	0.25	0.7
242	REDMOUNT	GR-SIL	0.25	0.7
243	REDMOUNT	SIL	0.25	0.7
35	RICCO	SICL	0.15	0.35
35	RICCO	SICL	0.15	0.35
120A	RICCO	SICL	0.15	0.35
472A	RICCO	SICL	0.15	0.35
250B	RITTER	L	0.35	0.9
270D	RITTER	L	0.3	0.9

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
31B	RITZVILLE	VFSL	0.3	1.0
31C	RITZVILLE	VFSL	0.25	1.0
31D	RITZVILLE	VFSL	0.2	1.0
31E	RITZVILLE	VFSL	0.15	1.0
32A	RITZVILLE	SIL	0.25	0.5
32B	RITZVILLE	SIL	0.2	0.5
32C	RITZVILLE	SIL	0.2	0.5
32D	RITZVILLE	SIL	0.15	0.5
33E	RITZVILLE	SIL	0.1	0.5
34E	RITZVILLE	SIL	0.1	0.5
44B	RITZVILLE	VFSL	0.3	1.0
44C	RITZVILLE	VFSL	0.3	1.0
44D	RITZVILLE	VFSL	0.25	1.0
45A	RITZVILLE	FSL, SIL	0.2	0.5
45A	RITZVILLE	SIL	0.25	0.5
45B	RITZVILLE	FSL, SIL	0.1	0.5
45B	RITZVILLE	SIL	0.25	0.5
45C	RITZVILLE	SIL	0.2	0.5
45D	RITZVILLE	SIL	0.15	0.5
46E	RITZVILLE	SIL	0.1	0.5
47E	RITZVILLE	SIL	0.1	0.5
79B	RITZVILLE	VFSL	0.3	1.0
79C	RITZVILLE	VFSL	0.3	1.0
79D	RITZVILLE	VFSL	0.25	1.0
79E	RITZVILLE	VFSL	0.2	1.0
80B	RITZVILLE	SIL	0.25	0.5
80C	RITZVILLE	SIL	0.2	0.5
80D	RITZVILLE	SIL	0.15	0.5
81E	RITZVILLE	SIL	0.1	0.5
82E	RITZVILLE	SIL	0.1	0.5
83C	RITZVILLE	SIL	0.2	0.5
25D	ROLOFF	SIL	0.2	0.7
38A	ROLOFF	SIL	0.25	0.7
38B	ROLOFF	SIL	0.25	0.7
38C	ROLOFF	SIL	0.25	0.7
39D	ROLOFF	SIL	0.2	0.7
214A	ROSEBURG	L	0.4	0.9
215C	ROSEHAVEN	L	0.3	0.9
51B	ROYAL	LFS	0.75	0.5
51C	ROYAL	LFS	0.7	0.5
52B	ROYAL	FSL	0.75	0.5
52C	ROYAL	FSL	0.7	0.5
53A	ROYAL	SIL	0.5	0.7

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
67B	RUCH	GR-SIL	0.5	1.0
67C	RUCH	GR-SIL	0.4	1.0
157B	RUCH	SIL	0.35	0.7
158B	RUCH	GR-SIL	0.5	1.0
158D	RUCH	GR-SIL	0.35	1.0
30A	SAGEHILL	FSL	0.8	4.0
30B	SAGEHILL	FSL	0.8	4.0
30C	SAGEHILL	FSL	0.75	4.0
40B	SAGEHILL	FSL	0.8	4.0
40C	SAGEHILL	FSL	0.75	4.0
41B	SAGEHILL	FSL	0.8	4.0
41C	SAGEHILL	FSL	0.75	4.0
54B	SAGEHILL	FSL	0.8	4.0
54C	SAGEHILL	FSL	0.8	4.0
55B	SAGEHILL	FSL	0.8	4.0
55C	SAGEHILL	FSL	0.8	4.0
87B	SAGEHILL	FSL	0.8	4.0
87C	SAGEHILL	FSL	0.8	4.0
62B	SALEM	SIL	0.3	0.8
63B	SALEM	GR-SIL	0.3	0.8
76B	SALEM	SIL	0.3	0.8
76C	SALEM	SIL	0.25	0.8
77B	SALEM	GR-SIL	0.3	0.8
87	SALEM	GR-SIL	0.3	0.8
118	SALEM	GR-SIL	0.3	0.8
119	SALEM	GR-SIL	0.3	0.8
Sa	SALEM	GR-SIL	0.3	0.8
190B	SALISBURY	L	0.15	0.3
243B	SALISBURY	L	0.15	0.3
243C	SALISBURY	L	0.15	0.3
120B	SALKUM	SIL	0.3	0.7
121B	SALKUM	SICL	0.3	0.35
121C	SALKUM	SICL	0.25	0.35
64B	SALKUM	SICL	0.3	0.35
64C	SALKUM	SICL	0.3	0.35
88B	SALKUM	SICL	0.3	0.35
88C	SALKUM	SICL	0.25	0.35
SkB	SALKUM	SICL	0.3	0.35
SkD	SALKUM	SICL	0.25	0.35
SIB	SALKUM	SICL	0.3	0.35
45	SAUVIE	SIL	0.35	0.7
46	SAUVIE	SICL	0.35	0.35
47	SAUVIE	SIL	0.35	0.7
47A	SAUVIE	SIL	0.35	0.7
48	SAUVIE	SICL	0.35	0.35
70	SCHERRARD	CL	0.1	0.4

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
42B	SCHRIER	SIL	0.35	0.7
42C	SCHRIER	SIL	0.3	0.7
270	SCHRIER	SIL	0.35	0.7
68B	SELMAC	L	0.2	0.9
68D	SELMAC	L	0.15	0.9
162B	SELMAC	L	0.2	0.9
162D	SELMAC	L	0.15	0.9
163A	SEVENOAKS	LS	0.58	3.0
164B	SHEFFLEIN	L	0.2	0.9
41A	SILVIES	SIL	0.2	0.5
90A	SILVIES	SIL	0.2	0.5
320B	SILVIES	SIL	0.2	0.5
767A	SILVIES	C	0.15	0.1
31	STANFIELD	SIL	0.3	2.0
31A	STANFIELD	SIL	0.3	2.0
44	STANFIELD	FSL	0.75	2.0
91A	STANFIELD	SIL	0.3	2.0
92A	STANFIELD	SIL	0.3	2.0
127A	STATZ	SL	0.3	2.0
34C	STUKEL	SL	0.25	2.0
35B	STUKEL	SL	0.3	2.0
35Bm	STUKEL	ASHY-SL	0.3	2.0
35Bm	STUKEL	ASHY-SL, CB-	0.3	2.0
35Bm	STUKEL	ASHY-SL	0.3	2.0
35Bm	STUKEL	ASHY-SL, GR-	0.3	2.0
35Bm	STUKEL	ASHY-SL	0.3	2.0
35Bm	STUKEL	UWB	0.3	2.0
74B	STUKEL	L	0.4	0.9
105C	STUKEL	SL	0.25	2.0
138A	STUKEL	SL	0.3	2.0
139Am	STUKEL	ASHY-SL	0.3	2.0
140Bm	STUKEL	ASHY-SL	0.3	2.0
142Bm	STUKEL	ASHY-SL	0.3	2.0
295	STURGILL	SIL	0.2	0.5
296	STURGILL	SIL	0.2	0.5
174E	SUTHERLIN	SIL	0.1	0.7
175E	SUTHERLIN	SIL	0.1	0.7
235C	SUTHERLIN	SIL	0.2	0.7
235D	SUTHERLIN	SIL	0.15	0.7
235E	SUTHERLIN	SIL	0.1	0.7
236C	SUTHERLIN	SIL	0.2	0.7

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
75	SYCAN	LS	1	3.0
76	SYCAN VARIANT	LCOS	1	3.0
73	TAKILMA	CB-L	0.5	1.0
187A	TAKILMA	CB-L	0.5	1.0
77	TEETERS	SIL	0.5	1.0
192A	TERRABELLA	CL	0.16	0.4
58	TETHEROW	GRV-SL	0.3	2.0
59	TETHEROW	GRV-SL	0.3	2.0
150A	TETHEROW	SL	0.3	2.0
150B	TETHEROW	SL	0.3	2.0
60C	TOLO	SIL	0.4	0.7
97C	TOLO	SIL	0.4	0.7
98C	TOLO	SIL	0.4	0.7
264BC	TOLO	SIL	0.4	0.7
327	TOLO	SIL	0.4	0.7
328	TOLO	SIL	0.4	0.7
329	TOLO	SIL	0.4	0.7
46C	TUB	GR-CL	0.2	0.5
47	TUB	GR-CL	0.2	0.5
49D	TUB	ST-CL	0.2	0.5
112	TUB	L	0.5	0.9
150A	TUB	CL	0.2	0.5
150B	TUB	CL	0.2	0.5
150D	TUB	CL	0.2	0.5
TgC	TUB	GR-CL	0.2	0.5
253A	TULANA	MK-SICL	0.3	1.0
152A	TUMALO	SL	0.5	3.0
152B	TUMALO	SL	0.5	3.0
33A	TURBYFILL	FSL	0.5	1.5
33B	TURBYFILL	FSL	0.5	1.5
33C	TURBYFILL	FSL	0.45	1.5
33D	TURBYFILL	FSL	0.4	1.5
132A	TURBYFILL	FSL	0.5	1.5
132B	TURBYFILL	FSL	0.5	1.5
132BC	TURBYFILL	FSL	0.5	1.5
44	TYGH	FSL	0.65	1.5

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
47C	UKIAH	CB-SICL	0.2	0.35
50B	UKIAH	ST-SICL	0.2	0.35
60D	UKIAH	SICL	0.2	0.35
169D	UKIAH	SICL	0.2	0.35
345D	UKIAH	ST-SICL	0.2	0.35
347C	UKIAH	ST-SICL	0.2	0.35
34	UMAPINE	SIL	0.15	0.3
106A	UMAPINE	SIL	0.15	0.3
920B	UTLEY	L	0.4	0.9
5B	VALBY	SIL	0.15	0.7
5C	VALBY	SIL	0.15	0.7
6D	VALBY	SIL	0.1	0.7
7D	VALBY	SIL	0.1	0.7
63B	VALBY	SIL	0.15	0.7
63C	VALBY	SIL	0.15	0.7
64D	VALBY	SIL	0.1	0.7
65D	VALBY	SIL	0.1	0.7
23B	VAN HORN	FSL	0.3	1.5
23C	VAN HORN	FSL	0.25	1.5
45B	VAN HORN	L	0.3	0.9
45C	VAN HORN	L	0.3	0.9
45D	VAN HORN	L	0.25	0.9
45E	VAN HORN	L	0.2	0.9
24B	VANHORN VARIANT	L	0.3	0.9
53	VEAZIE	L	0.35	0.9
53	VEAZIE	CBX-S, GRV-LS, GRV-S	0.2	
62A	VEAZIE	GR-L	0.35	0.9
65	VEAZIE	L	0.35	0.9
66	VEAZIE	L	0.35	0.9
67	VEAZIE	L	0.35	0.9
109A	VEAZIE	SIL	0.3	0.7
110A	VEAZIE	CB-L	0.35	0.9
201A	VEAZIE	L	0.35	0.9
202A	VEAZIE	L	0.35	0.9
128B	VENETA	L	0.3	0.9
255C	VENETA	L	0.3	0.9
255D	VENETA	L	0.3	0.9
VeB	VENETA	SIL	0.3	0.7
VeD	VENETA	SIL	0.3	0.7
129B	VENETA VARIANT	SIL	0.3	0.7
VnB	VENETA VARIANT	L	0.3	0.9
VnD	VENETA VARIANT	L	0.3	0.9

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
35A	VIRTUE	SIL	0.15	0.5
35B	VIRTUE	SIL	0.15	0.5
35C	VIRTUE	SIL	0.1	0.5
171B	VIRTUE	SIL	0.15	0.5
172B	VIRTUE	GRV-SIL	0.15	0.5
516C	VIRTUE	SIL	0.1	0.5
560BC	VIRTUE	SIL	0.15	0.5
48B	WAHA	SIL	0.25	0.7
49D	WAHA	SIL	0.2	0.7
50D	WAHA	SIL	0.2	0.7
66B	WAHA	SIL	0.25	0.7
67D	WAHA	SIL	0.2	0.7
68D	WAHA	SIL	0.2	0.7
69D	WAHA	SIL	0.2	0.7
112B	WAHA	SICL	0.3	0.7
112D	WAHA	SICL	0.25	0.7
290B	WAHA	SIL	0.25	0.7
290B	WAHA	SICL, SIL	0.2	
291D	WAHA	SIL	0.2	0.7
31B	WALLA WALLA	SIL	0.3	0.7
31C	WALLA WALLA	SIL	0.3	0.7
32D	WALLA WALLA	SIL	0.25	0.7
46B	WALLA WALLA	SIL	0.3	0.7
46C	WALLA WALLA	SIL	0.3	0.7
46D	WALLA WALLA	SIL	0.25	0.7
47D	WALLA WALLA	SIL	0.25	0.7
47E	WALLA WALLA	SIL	0.15	0.7
48E	WALLA WALLA	SIL	0.15	0.7
52B	WALLA WALLA	SIL	0.3	0.7
52C	WALLA WALLA	SIL	0.25	0.7
53D	WALLA WALLA	SIL	0.2	0.7
53E	WALLA WALLA	SIL	0.15	0.7
54D	WALLA WALLA	SIL	0.2	0.7
114B	WALLA WALLA	SIL	0.3	0.7
114B	WALLA WALLA	SIL	0.25	
114B	WALLA WALLA	SI, SIL	0.2	
114C	WALLA WALLA	SIL	0.25	0.7
115D	WALLA WALLA	SIL	0.2	0.7
115E	WALLA WALLA	SIL	0.15	0.7
116D	WALLA WALLA	SIL	0.2	0.7
117D	WALLA WALLA	SIL	0.2	0.7
118B	WALLA WALLA	SIL	0.3	0.7
49B	WAMIC	L	0.25	0.5
49C	WAMIC	L	0.25	0.5
50C	WAMIC	L	0.25	0.5
50D	WAMIC	L	0.2	0.5

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
43	WAPATO	SICL	0.3	0.3
55	WAPATO	SIL	0.3	0.7
63	WAPATO	SIL	0.3	0.7
73	WAPATO	SICL	0.3	0.3
83	WAPATO	SIL	0.3	0.7
83	WAPATO	SIL	0.3	0.7
84	WAPATO	SICL	0.3	0.3
99	WAPATO	SICL	0.3	0.3
134	WAPATO	SICL	0.3	0.3
Wc	WAPATO	SICL	0.25	0.3
Wc	WAPATO	SICL	0.25	0.3
54B	WAPINITIA	SIL	0.3	2.0
54C	WAPINITIA	SIL	0.3	2.0
54D	WAPINITIA	SIL	0.25	2.0
54E	WAPINITIA	SIL	0.2	2.0
149	WAPINITIA	SIL	0.3	2.0
53E	WARDEN	SIL	0.25	0.23
55B	WARDEN	SIL	0.25	0.23
55C	WARDEN	SIL	0.2	0.23
55D	WARDEN	SIL	0.15	0.23
70B	WARDEN	VFSL	0.65	1.2
70C	WARDEN	VFSL	0.65	1.2
70D	WARDEN	VFSL	0.6	1.2
71A	WARDEN	SIL	0.25	0.23
71B	WARDEN	SIL	0.25	0.23
71C	WARDEN	SIL	0.2	0.23
71D	WARDEN	SIL	0.2	0.23
72C	WARDEN	SIL	0.25	0.23
72D	WARDEN	SIL	0.2	0.23
5C	WATAMA	SIL	0.25	0.7
54B	WATAMA	SIL	0.25	0.7
54C	WATAMA	SIL	0.25	0.7
114	WATAMA	SIL	0.25	0.7
150	WATAMA	SIL	0.25	0.7
151	WATAMA	SIL	0.25	0.7
152	WATAMA	GR-SIL	0.25	0.7
351	WATAMA	SIL	0.25	0.7
352	WATAMA	SIL	0.25	0.7
353	WATAMA	SIL	0.25	0.7
210B	WATAMA	SIL	0.25	0.7
247D	WATAMA	SIL	0.25	0.7
272C	WATAMA	SIL	0.25	0.7

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
74C	WILLAKENZIE	SICL	0.3	0.35
74D	WILLAKENZIE	SICL	0.3	0.35
101C	WILLAKENZIE	CL	0.3	0.45
101D	WILLAKENZIE	CL	0.3	0.45
135C	WILLAKENZIE	CL	0.3	0.45
135D	WILLAKENZIE	CL	0.3	0.45
WeC	WILLAKENZIE	SICL	0.3	0.35
WeD	WILLAKENZIE	SICL	0.25	0.35
WKB	WILLAKENZIE	SICL	0.3	0.35
WkD	WILLAKENZIE	SICL	0.25	0.35
44A	WILLAMETTE	SIL	0.3	0.7
44B	WILLAMETTE	SIL	0.3	0.7
44C	WILLAMETTE	SIL	0.25	0.7
44D	WILLAMETTE	SIL	0.2	0.7
75A	WILLAMETTE	SIL	0.3	0.7
75C	WILLAMETTE	SIL	0.25	0.7
75D	WILLAMETTE	SIL	0.2	0.7
86A	WILLAMETTE	SIL	0.3	0.7
86B	WILLAMETTE	SIL	0.25	0.7
86C	WILLAMETTE	SIL	0.2	0.7
87A	WILLAMETTE	SIL	0.3	0.7
88A	WILLAMETTE	SIL	0.3	0.7
88B	WILLAMETTE	SIL	0.25	0.7
102	WILLAMETTE	SIL	0.3	0.7
WeA	WILLAMETTE	SIL	0.3	0.7
WeC	WILLAMETTE	SIL	0.25	0.7
WIA	WILLAMETTE	SIL	0.3	0.7
WIC	WILLAMETTE	SIL	0.25	0.7
WID	WILLAMETTE	SIL	0.2	0.7
42	WILLANCH	FSL	1.5	2.0
62	WILLANCH	FSL	1.5	2.0
127A	WILLANCH	FSL	1.5	2.0
136	WILLANCH	FSL	1.5	2.0
261A	WILLANCH	FSL	1.5	2.0
94	WILLOWDALE	L	0.3	0.9
156	WILLOWDALE	L	0.3	0.9
15A	WILLOWDALE	L	0.3	0.9
Wd	WILLOWDALE	L	0.25	0.9
76C	WINCHESTER	S	0.9	4.0
122B	WINCHESTER	S	1	4.0
123B	WINCHESTER	S	1	4.0
124B	WINCHESTER	S	1	4.0

**Table OR2-16      Soil intake parameters for selected soils in Oregon (continued)**

MAP UNIT SYMBOL	SOIL COMPONENT NAME	SURFACE TEXTURE	Basic Sprinkler Intake Rate (in/hr)	Intake Family
26B	WIND RIVER	FSL	0.5	1.5
26C	WIND RIVER	FSL	0.45	1.5
56B	WIND RIVER	FSL	0.5	1.5
56C	WIND RIVER	FSL	0.5	1.5
27B	WINDRIVER			
	VARIANT	GR-SL	0.5	1.5
27E	WINDRIVER			
	VARIANT	GR-SL	0.35	1.5
71	WINGVILLE	SIL	0.3	0.3
52A	WINGVILLE	SIL	0.3	0.3
176A	WINGVILLE	SIL	0.3	0.3
6B	WINLO	GRV-CL	0.2	0.9
198A	WINLO	GRV-CL	0.2	0.9
199C	WOLFPEAK	SL	0.27	1.5
45A	WOODBURN	SIL	0.3	0.7
45B	WOODBURN	SIL	0.3	0.7
45C	WOODBURN	SIL	0.25	0.7
45D	WOODBURN	SIL	0.2	0.7
77A	WOODBURN	SIL	0.3	0.7
77C	WOODBURN	SIL	0.25	0.7
77D	WOODBURN	SIL	0.2	0.7
91A	WOODBURN	SIL	0.3	0.7
91B	WOODBURN	SIL	0.3	0.7
91C	WOODBURN	SIL	0.25	0.7
106A	WOODBURN	SIL	0.3	0.7
106C	WOODBURN	SIL	0.25	0.7
139	WOODBURN	SIL	0.3	0.7
WoA	WOODBURN	SIL	0.3	0.7
WoC	WOODBURN	SIL	0.25	0.7
WuA	WOODBURN	SIL	0.3	0.7
WuB	WOODBURN	SIL	0.3	0.7
WuC	WOODBURN	SIL	0.25	0.7
WuD	WOODBURN	SIL	0.2	0.7
86C	YAINAX	L	0.4	0.9
57B	YANCY	CL	0.2	0.4
87A	YANCY	CL	0.2	0.4
87B	YANCY	CL	0.2	0.4
89	YONNA	L	0.3	0.9
326	ZUMWALT	SIL	0.25	0.7
358	ZUMWALT	SIL	0.25	0.7
359	ZUMWALT	SIL	0.25	0.7